

Application No. 10/054,487  
Reply to final Office Action of January 15, 2004

### REMARKS

This Amendment is to the final Office Action mailed January 15, 2003. Claims 1 to 20 and 23 to 73 were pending previously in this application. Claims 21 and 22 were withdrawn previously due to a restriction requirement. In this Amendment, Claims 1, 57, 60, 62 and 67 have been amended to more clearly define the claims over the art of record. The amendments add no new subject matter. Because this Amendment is being filed by facsimile, please charge Deposit Account No. 02-1818 for the enclosed Petition for One Month Extension of Time and for any other fees deemed owed.

In the previous response October 23, 2003, the drawings were amended slightly to show correct element numbers. The Application Papers section of the current Office Action does not state whether those drawing amendments were accepted or objected to. Applicants respectfully request notification of such decision.

In the final Office Action, Claims 1 to 5, 7 to 11, 14 to 20, 23, 28, 30 to 41, 43 and 44 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,210,368 to Rogers ("*Rogers*"). Claims 6, 12, 13, 24 to 27, 29 and 42 to 72 were rejected under 35 U.S.C. §103(a) as being obvious in view of *Rogers*.

Applicants respectfully assert that *Rogers* does not teach the currently presented claims of the present invention. For example, in Paragraph 3 of the Office Action it is stated that items 26 and 34 of figure 1 of *Rogers* show capacitor plates spaced apart in a fixed relation to one another. *Rogers* at column 4, line 8, however, teaches plates that move with respect to each other:

As will be apparent to those of ordinary skill, the annular convolutions 26 of bellows 22 define a first capacitor plate and member 34 defines a second capacitor plate, electrically isolated from the first capacitor plate and defining therewith a capacitive space 40. The overlapping areas of bellows 22 and member 34 and thus the size of capacitive space 40 varies with the position of bellows reservoir 22. Space 40 is maximized when bellows is in its full, expanded position and minimized when bellows 22 is in its empty, contracted position (not shown). The capacitance may be monitored using basic electrical measurement circuitry by applying a time-dependent voltage across feed through wire 38 and the pump common ground, for example, bulkhead 20. For example, the capacitance may be determined using alternating current and monitoring the impedance characteristics of the capacitive circuit comprised of the aforementioned components.

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The capacitive space 40 of *Rogers* varies. Annular convolutions 26 form a first capacitor plate. Member 34 forms a second capacitor plate. Those plates define the space 40. The plates move with respect to one another to change space 40. The plates are not therefore fixed with respect to one another.

Semantically, one could argue that because the plates move in a relatively parallel relationship with each other that the distance between the plates remains about the same even though the plates are not fixed with respect to each other. To eliminate this possible ambiguity, Claims 1 and 60 have been amended.

Claims 1 and 60 have been amended to claim that the plurality of capacitor plates are positioned in a fixed relation to one another. They do not move, at least substantially, apart or laterally with respect to each other. Such is clearly not the case with *Rogers*, which uses the moving plates to enable the capacitance to be monitored (col. 4, line 17). Applicants respectfully submit that the amendments to Claims 1 and 60 do not raise new issues of patentability but instead further refine earlier described distinctions.

In another embodiment, as noted in the Office Action, *Rogers* discloses the use of an absorbent material between two stationary conductive plates. That embodiment also fails to teach or suggest Claims 1 and 60.

Claim 1 includes a fluid receptacle positioned between the plurality of capacitor plates. The absorbent material is not a fluid receptacle.

Claim 60 includes passing a volume of dialysis fluid through a pair of capacitor plates. As discussed in *Rogers*, fluid is absorbed between the capacitor plates and does not flow through the plates.

Claim 31 as previously presented includes first and second capacitor plates fixed spatially with respect to each other. Similarly, Claim 47 as previously presented includes a fluid volume capacitance sensor so positioned and arranged in a fixed relationship on opposing sides of the fluid flow mechanism to measure a volume of the fluid during the dialysis treatment. Claims 31 and 47 are not susceptible to the above-described possible ambiguity and therefore do not need to be amended to be distinguished patentably over *Rogers*. Furthermore, the absorbent material of the second *Rogers* embodiment does not teach or suggest a fluid receptacle or a fluid flow mechanism as called for respectively in Claims 31 and 47.

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Likewise, Claim 62 as previously presented includes a fixed volume chamber. Neither embodiment of *Rogers* includes or suggests a fixed volume chamber. In the first embodiment, the chamber volume is not fixed as discussed. In the second embodiment, the absorbent material absorbs fluid and is not a chamber or a receptacle. Claim 62 is not susceptible to the above-described possible ambiguity and therefore does not need to be amended to be distinguished patentably over *Rogers*.

For at least the foregoing reasons, Applicants respectfully submit that *Rogers* does not teach or suggest Claims 1, 31, 47, 60 and 62 and therefore does not teach Claims 1 to 11, 37 to 50, 48 to 50, 61 and 63 to 66 that depend respectively from Claims 1, 31, 47, 60 and 62. Each of those claims is novel, non-obvious and patentably distinct over *Rogers* and therefore in condition for allowance.

Another primary difference between the claims of the present invention and *Rogers* is that *Rogers* does not teach or remotely suggest providing: (i) a receptacle between capacitor plates; (ii) dialysis fluid or a relatively high dielectric fluid that fills the receptacle; and (iii) air or a relatively low dielectric fluid that fills outside of the receptacle or between the receptacle and the capacitor plates. Claims 12, 36 and 51 include such features.

Neither embodiment of *Rogers* teaches the features of Claims 12, 36 and 51. In the first embodiment, there is no intermediate receptacle between plates 26 and 34. There is also no relatively high/low dielectric fluid combination between plates 26 and 34 as called for in the claims. In the second embodiment, the absorbent material is not a receptacle. Even if it was, there is no room for a relatively low dielectric material to exist outside the receptacle, between the capacitor plates. *Rogers* does not suggest or provide motivation for the distinctions of Claims 12, 36 and 51 over *Rogers*. Applicants therefore submit respectfully that Claims 12, 36 and 51 and Claims 37 to 46 and 52 to 56 depending respectively from Claims 36 and 51 are each novel, non-obvious and patentably distinct over *Rogers* and in condition for allowance.

Claims 13 and 14 each include a variable dielectric between capacitor plates that is dependent on an amount of fluid in a receptacle. The first embodiment of *Rogers* does not teach, use or suggest a variable dielectric between capacitor plates 26 and 34. Accordingly, the first embodiment cannot teach a variable dielectric that is dependent on an amount of fluid in a receptacle. The second embodiment of *Rogers* does not teach, use or suggest a receptacle or a variable dielectric in a receptacle. Applicants therefore submit respectfully that Claims 13 and

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14 and Claims 15 to 30 depending from Claim 14 are each novel, non-obvious and patentably distinct over *Rogers* and in condition for allowance.

Claims 57, 62 and 67 as presently presented each include the feature that a relatively high dielectric fluid is exchanged with a different relatively low dielectric fluid in the chamber and vice versa. Neither embodiment of *Rogers* discloses, teaches or suggests such a feature. Gap 40 of the first embodiment is said to be filled only with a propellant for maintaining a constant pressure on bellows 22 (col. 3, line 29). Different fluids with different dielectric properties are not disclosed. The absorbent material of the second embodiment loses liquid propellant and will "dry out" (col. 5, line 37). An exchange or replacement of one fluid for a different fluid does not take place within the absorbent material. The liquid instead evaporates to fill the volume in space 40 caused by the collapse of bellows 22. Applicants therefore submit respectfully that Claims 57, 62 and 67 and Claims 58 to 59, 63 to 66 and 68 to 73 depending respectively from Claims 57, 62 and 67 are each novel, non-obvious and patentably distinct over *Rogers* and in condition for allowance.

The patentability of each of the independent claims, discussed above, renders moot the anticipation and obviousness rejections of any of the claims depending from the independent claims.

For the foregoing reasons, Applicants respectfully submit that the above-identified patent application is now in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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